

REMARKS

The Office Action mailed October 18, 2006 has been received and the Examiner's comments carefully reviewed. Claims 1, 5, 10, 14, 15, 23-24, 27, 37, 44, 52-53, 57-59, 70, 73-76 have been amended. No new subject matter has been added. Claims 1, 3-5, 9-10, 13-15, 17-24, 27, 37-40, 42-47, 49-53, 55-59, 61-63, 69-76 are currently pending. Applicants respectfully submit that the pending claims are in condition for allowance.

Objection to the Drawings

The Examiner requested the addition of legends to each of FIGS. 3A, 3B, 5C, 5D, 5E, and 6-13. Applicants have submitted herewith annotated drawings showing the addition of legends, and associated replacement sheets. Withdrawal of this objection is requested.

Objection to the Claims

The Examiner objected to claim 1 for a typographical error. The error has been corrected as suggested by the Examiner. Withdrawal of this objection is requested.

Rejections Under 35 U.S.C. §112

The Examiner rejected claims 1, 15, 37, 52-53, 57-59, 70, 73 and 76 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In particular, the Examiner states that it is unclear whether the "/" in the phrase "mixed data/voice signals" means "alternative" or "and". The claims have been amended to address the Examiner's concern. Withdrawal of this rejection is requested.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 1, 3-5, 9-10, 13-15, 17-24, 27, 37-40, 42-47, 59-53, 55-59, 61-63, 69-76 under 35 U.S.C. §103(a) as being unpatentable over Frazier et al. (U.S. Patent 6,430,288 B1) in view of Dithie et al. (U.S. Patent 4,821,150). Applicants respectfully traverse this rejection.

Frazier discloses a splitter assembly 10 including a housing 12 that contains a removable card retainer 52. The card retainer 52 has a plurality of slots 60 sized to receive a number of individual POTS splitter cards 68 (FIG. 2). The card retainer 52 also includes a faceplate 70 having a window 74 (FIG. 5). The window 74 of the faceplate 70 provides access to three rows 94, 96, 98 of IDCs 100. Electrical connections must be made, typically in advance, between one IDC 100 in each of the rows 94, 96, 98 and a single POTS splitter card 68 located near the IDC 100. Column 4, lines 30-34. In operation, incoming POTS lines are affixed to the IDCs 100 in the INPUT row 94. Subscriber circuitry is affixed to IDCs 100 in the VOICE row 96 and DATA row 98. The circuitry of the splitter card 68 splits the incoming line into two separate voice and data outputs. Column 5, lines 8-15.

A. Claims 1, 3-5, 9-10, and 13-14

1. **No teaching of both a circuit board and a splitter card, connected by a card edge connector**

Claim 1 recites a telecommunications component including a circuit board, one or more card edge connectors connected to the circuit board, and a splitter card having one or more card edge connectors that connect to the one or more card edge connectors of the circuit board.

Frazier does not teach or suggest an arrangement having a circuit board and a splitter card that connect to one another by one or more card edge connectors. Instead, Frazier simply teaches an arrangement having a splitter card 68, not a splitter card and a different circuit board connected to the splitter card by a card edge connector.

Duthie does not make up for the deficiencies of Frazier. Duthie discloses a printed circuit board 50 having an edge connector 52. No where does Duthie teach or suggest that the circuit board 50 is connected to a splitter card. In contrast, Duthie merely teaches that the circuit board 50 can be positioned within a housing 86 and plugged into a receptacle connector 88 mounted to the back of the housing 86.

Neither Frazier nor Duthie teaches or suggests both a circuit board and a splitter card, each connected to the other by a card edge connector. Each reference instead teaches only a single card or single circuit board (i.e., neither connected to another card or another circuit board). The Examiner states that it would have been obvious to combine the

teachings of Duthie with Frazier; however, even if the card edge connector of Duthie were combined with the splitter card of Frazier, the combination still does not result in both a circuit card and splitter card connected to one another, as recited in claim 1. Modifying Frazier to incorporate a second different card that connects to the splitter card 68 would require significant re-engineering of the device not taught by the cited art references. Such a modification to Frazier can only be derived from Applicants' own specification, and therefore based upon impermissible hindsight reconstruction.

2. No teaching of three connectors mounted on a circuit board separate from a splitter card

Claim 1 also recites that in addition to the one or more card edge connectors being connected to the circuit board--first, second, and third, cable connectors are mounted on the circuit board.

Frazier does not teach or suggest an arrangement having a circuit board, separate from a splitter card, with each of first, second and third cable connectors mounted on the circuit board, and one or more card edge connectors connected to the circuit board. Instead, Frazier simply teaches an arrangement having a splitter card interconnected to an input IDC, a voice IDC, and a data IDC.

While the Examiner states that Frazier discloses first, second, and third cable connectors for inputting twisted pair signals, it is respectfully noted that claim 1 requires that the first, second, and third cable connectors be mounted on the circuit board. The IDCs are not mounted on the splitter card.

In the alternative, the Examiner points to no disclosure in Frazier of such connectors, but rather only states that Frazier discloses first, second, and third cable connectors for inputting/outputting twisted pair signals: "(i.e. **card**).\" It is not clear to Applicants what the Examiner is referring to as a connector for inputting/outputting twisted pair signals, which is also mounted on a circuit board and is separated from the splitter card. If this rejection is to be maintained, further clarification of the basis for this rejection is requested in light of the Examiner's reference to a "**card**."

Duthie does not make up for the deficiencies of Frazier. No where does Duthie teach or suggest that the circuit board 50 includes first, second, and third connectors for

inputting/outputting signals, as recited in claim 1. This rejection can therefore only be derived from Applicants' own specification, and based upon impermissible hindsight reconstruction.

3. No teaching of tracings configuration

Claim 1 further recites first tracings, second tracings and third tracings provided on the circuit board; each of the tracings connecting to one of the three connectors mounted on the circuit board. The third tracings are position on the circuit board such that none of the third tracings cross-over any of the first and second tracings.

For reasons previously discussed, it is submitted that neither Frazier nor Duthie teaches or suggests a circuit board having each of a card edge connector and three connectors for inputting/outputting signals. It further follows then that neither Frazier nor Duthie teaches or suggests the particular positioning of first, second, and third tracings on a circuit board. In fact, both Frazier and Duthie are silent as to the particular positioning of tracings provided on the splitter card or the circuit board. That is, neither Frazier nor Duthie teaches or suggests a circuit board having tracings such that none of third tracings on the board cross-over any of first or second tracings. If this rejection is to be maintained, evidence to the contrary is respectfully requested.

At least for any one of the above reasons, Applicants respectfully submit that a prima facie case of obviousness has not been properly established, and that independent claim 1, and dependent claims 3-5, 9-10 and 13-14 are therefore patentable.

B. Claims 15, 17-24, and 27

1. No teaching of both an interface card and a splitter card, connected by a card edge connector

Claim 15 recites a telecommunications component having an interface card and a splitter card. The interface card includes a circuit board and one or more card edge connectors connected to the circuit board. The splitter card has one or more card edge connectors that connect to the one or more card edge connectors of the circuit board.

For similar reasons as discussed above with regards to claim 1, Applicants submit that neither Frazier nor Duthie teaches or suggests both an interface card and a splitter card, each connected to the other by a card edge connector.

2. No teaching of three connectors mounted on a circuit board of an interface card, separate from a splitter card

Claim 15 also recites that in addition to the one or more card edge connectors being connected to the circuit board of the interface card--first, second, and third, cable connectors are mounted on the circuit board.

For similar reasons as discussed above with regards to claim 1, Applicants submit that neither Frazier nor Duthie teaches or suggests an arrangement having a circuit board, separate from a splitter card, with each of first, second and third cable connectors mounted on the circuit board, and one or more card edge connectors connected to the circuit board. If this rejection is to be maintained, further clarification of the basis for this rejection is requested in light of the Examiner's reference to a "**card**" as a connector.

3. No teaching of tracings configuration

Claim 15 further recites first tracings, second tracings and third tracings provided on the circuit board, and each connecting to one of the three connectors mounted on the circuit board. As previously discussed, neither Frazier nor Duthie teaches or suggests a circuit board having each of a card edge connector and three connectors for inputting/outputting signals. It follows then that neither Frazier nor Duthie teaches or suggests the particular configuration of first, second, and third tracings (i.e. tracings that interconnect particular contacts on card edge connectors to particular multi-pair cable connectors, as recited in claim 15). If this rejection is to be maintained, evidence to the contrary is respectfully requested.

4. No teaching of relative orientations of both cards

Claim 15 also recites that the circuit board of the interface card is oriented perpendicular with respected to the back plane of a chassis to which the interface card is

mounted; and that the splitter card is aligned parallel to the circuit board when the splitter card is connected to the circuit board.

The Examiner states that it would have been obvious to use any orientation for the circuit board to accommodate the splitters, subject to the design constraints. This reasoning, however, does not meet the basic criteria necessary to establish a prima facie case of obviousness. In particular, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. The prior art references themselves also must teach or suggest all the claim limitations. M.P.E.P. §2143.

First, it is noted that the cited references do not teach or suggest all the claim limitations; i.e., an interface card, separate from a splitter card, that is connected to the splitter card by a card edge connector. Second, none of cited references discloses the particular orientation of an interface card and a separate splitter card in relation to one another, and in relation to the back plane of a chassis. "The mere fact that [one] could rearrange [or re-orient] the parts of the reference device to meet the terms of the claims [] is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason, [] without benefit of the [Applicants'] specification, to make the necessary changes in the reference device. M.P.E.P. §2144.04(VI)(C).

It is submitted that the reason for modifying the Frazier device to include a separate interface card, and for orienting that interface card to meet the terms of the claim 15 can only be based upon Applicants' own specification.

At least for any one of the above reasons, Applicants respectfully submit that a prima facie case of obviousness has not been properly established, and that independent claim 15, and dependent claims 17-24 and 27 are therefore patentable.

C. Claims 37-40 and 42-43

1. **No teaching of both an interface card and a POTS splitter card, connected by a card edge connector**

Claim 37 recites a telecommunications component including an interface card and a POTS splitter card. The interface card includes a circuit board and one or more card edge

connectors connected to the circuit board. The POTS splitter card is electrically connected to the card edge connector of the interface card.

Frazier does not teach or suggest an arrangement having an interface card and a splitter card that are electrically connected to one another by a card edge connector. Instead, Frazier simply teaches an arrangement having a splitter card 68, not a splitter card and a different interface card connected to the splitter card by a card edge connector.

Duthie does not make up for the deficiencies of Frazier. Duthie discloses a printed circuit board 50 having an edge connector 52. No where does Duthie teach or suggest that the circuit board 50 is connected to a splitter card. In contrast, Duthie merely teaches that the circuit board 50 can be positioned within a housing 86 and plugged into a receptacle connector 88 mounted to the back of the housing 86.

Neither Frazier nor Duthie teaches or suggests both an interface card and a splitter card, each connected to the other by a card edge connector. Each reference instead teaches only a single card or single circuit board (i.e., neither connected to another card or another circuit board). The Examiner states that it would have been obvious to combine the teachings of Duthie with Frazier; however, even if the card edge connector of Duthie were combined with the splitter card of Frazier, the combination still does not result in both an interface card and splitter card connected to one another, as recited in claim 37. Modifying Frazier to incorporate a second different card that connects to the splitter card 68 would require significant re-engineering of the device not taught by the cited art references. Such a modification to Frazier can only be derived from Applicants' own specification, and therefore based upon impermissible hindsight reconstruction.

2. No teaching of three connectors mounted to a circuit board separate from a POTS splitter card

Claim 37 also recites that in addition to the one or more card edge connectors, the interface card includes first, second, and third, cable connectors.

Frazier does not teach or suggest an arrangement having an interface card, separate from a splitter card, that includes first, second and third cable connectors. Instead, Frazier simply teaches an arrangement having a splitter card interconnected to an input IDC, a voice

IDC, and a data IDC. If this rejection is to be maintained, further clarification of the basis for this rejection is requested.

Duthie does not make up for the deficiencies of Frazier. No where does Duthie teach or suggest that the circuit board 50 includes first, second, and third connectors for inputting/outputting signals, as recited in claim 37. This rejection can therefore only be derived from Applicants' own specification, and based upon impermissible hindsight reconstruction.

3. No teaching of the relative orientation of an interface card

Claim 37 further recites that a circuit board of the interface card is oriented perpendicular with respected to the back plane of a chassis to which the interface card is mounted.

The Examiner states that it would have been obvious to use any orientation for the circuit board to accommodate the splitters, subject to the design constraints. For similar reasons as discussed above with regards to claim 15, this assertion does not meet the basic criteria necessary to establish a prima facie case of obviousness. In particular, the cited references do not teach or suggest all the claim limitations; i.e., an interface card, separate from a splitter card, that is connected to the splitter card by a card edge connector. Also, "The mere fact that [one] could rearrange [or re-orient] the parts of the reference device to meet the terms of the claims [] is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason, [] without benefit of the [Applicants'] specification, to make the necessary changes in the reference device. M.P.E.P. §2144.04(VI)(C).

At least for any one of the above reasons, Applicants respectfully submit that a prima facie case of obviousness has not been properly established, and that independent claim 37, and dependent claims 38-40 and 42-43 are therefore patentable.

D. Claims 44-47 and 49-50

1. No teaching of both an interface card and a POTS splitter card, connected by a card edge connector

Claim 44 recites a telecommunications component including an interface card and a POTS splitter card. The interface card includes a circuit board and one or more card edge connectors mounted to the circuit board. The POTS splitter card is electrically connected to the card edge connector of the interface card.

For similar reasons as discussed above with regards to claim 37, Applicants submit that neither Frazier nor Duthie teaches or suggests both an interface card and a splitter card, each connected to the other by a card edge connector.

2. No teaching of three connectors mounted to a circuit board separate from a POTS splitter card

Claim 44 also recites that in addition to the one or more card edge connectors, the interface card includes first, second, and third, cable connectors.

For similar reasons as discussed above with regards to claim 37, Applicants submit that neither Frazier nor Duthie teaches or suggests an interface card, separate from a splitter card, that includes first, second and third cable connectors. This rejection can therefore only be derived from Applicants' own specification, and based upon impermissible hindsight reconstruction.

3. No teaching of the relative orientation of an interface card

Claim 44 further recites that a circuit board of the interface card is oriented such that major side surfaces of the board extend between the front and back of a chassis to which the interface card is mounted.

The Examiner states that it would have been obvious to use any orientation for the circuit board to accommodate the splitters, subject to the design constraints. For similar reasons as discussed above with regards to claim 37, Applicants respectfully submit that this assertion does not meet the basic criteria necessary to establish a prima facie case of obviousness.

At least for any one of the above reasons, Applicants respectfully submit that a prima facie case of obviousness has not been properly established, and that independent claim 44, and dependent claims 45-47 and 49-50 are therefore patentable.

E. Claim 51

1. No teaching of both an interface card and a POTS splitter card, connected by a card edge connector

Claim 51 recites a telecommunications component including a plurality of interface cards and a POTS splitter card. Each of the interface cards includes a circuit board and one or more card edge connectors mounted adjacent a second end of the circuit board. The POTS splitter card is electrically connected to the card edge connector of the interface card.

Frazier does not teach or suggest an arrangement having an interface card and a splitter card that are electrically connected to one another by a card edge connector. Instead, Frazier simply teaches an arrangement having a splitter card 68, not a splitter card and a different interface card connected to the splitter card by a card edge connector.

Duthie does not make up for the deficiencies of Frazier. Duthie discloses a printed circuit board 50 having an edge connector 52. No where does Duthie teach or suggest that the circuit board 50 is connected to a splitter card. In contrast, Duthie merely teaches that the circuit board 50 can be positioned within a housing 86 and plugged into a receptacle connector 88 mounted to the back of the housing 86.

Neither Frazier nor Duthie teaches or suggests both an interface card and a splitter card, each connected to the other by a card edge connector. Each reference instead teaches only a single card or single circuit board (i.e., neither connected to another card or another circuit board). The Examiner states that it would have been obvious to combine the teachings of Duthie with Frazier; however, even if the card edge connector of Duthie were combined with the splitter card of Frazier, the combination still does not result in both an interface card and splitter card connected to one another, as recited in claim 51. Modifying Frazier to incorporate a second different card that connects to the splitter card 68 would require significant re-engineering of the device not taught by the cited art references. Such a modification to Frazier can only be derived from Applicants' own specification, and therefore based upon impermissible hindsight reconstruction.

2. No teaching of an interface card having three connectors

Claim 51 also recites that in addition to the one or more card edge connectors, the interface card includes first, second, and third, cable connectors.

Frazier does not teach or suggest an arrangement having an interface card, separate from a POTS splitter card, that includes first, second and third cable connectors. Instead, Frazier simply teaches an arrangement having a splitter card interconnected to an input IDC, a voice IDC, and a data IDC. If this rejection is to be maintained, further clarification of the basis for this rejection is requested.

Duthie does not make up for the deficiencies of Frazier. No where does Duthie teach or suggest that the circuit board 50 includes first, second, and third connectors for inputting/outputting signals, as recited in claim 37. This rejection can therefore only be derived from Applicants' own specification, and based upon impermissible hindsight reconstruction.

F. Claims 52-53, 55-59, 61-63, and 69-76

Each of independent claims 52, 53, 57, 58, 59, 69, 70, 73, and 76 recite similar limitations to those recited in claims 1 and 15. At least for similar reasons as discussed above, Applicants respectfully submit that independent claims 52, 53, 57, 58, 59, 69, 70, 73, and 76, and the associated dependent claims are patentable.

SUMMARY

It is respectfully submitted that each of the presently pending claims (claims 1, 3-5, 9-10, 13-15, 17-24, 27, 37-40, 42-47, 49-53, 55-59, 61-63, 69-76) is in condition for allowance and notification to that effect is requested. The Examiner is invited to contact Applicants' representative at the below-listed telephone number if it is believed that prosecution of this application may be assisted thereby.

Although certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentably distinct. Applicants reserve the right to raise these arguments in the future.



Date: January 9, 2007

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

A handwritten signature in black ink, appearing to read 'Karen A. Fitzsimmons', written over a horizontal line.

Karen A. Fitzsimmons
Reg. No. 50,470
KAF:cjc



FIG. 3A

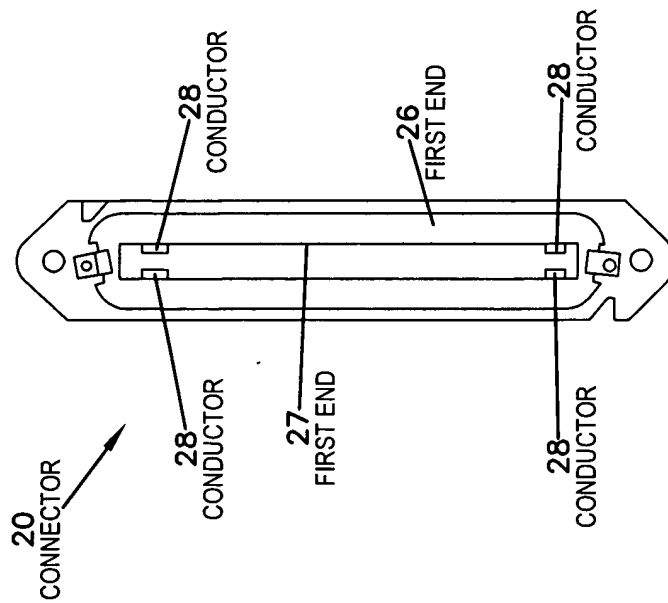
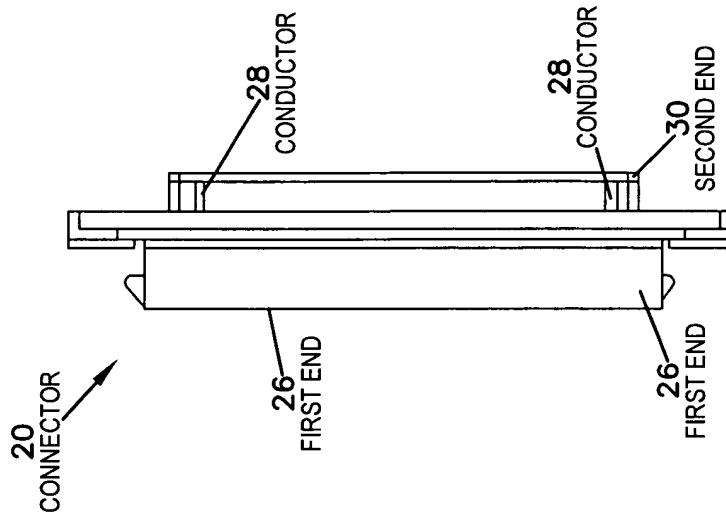


FIG. 3B



Legends added.

FIG. 5C

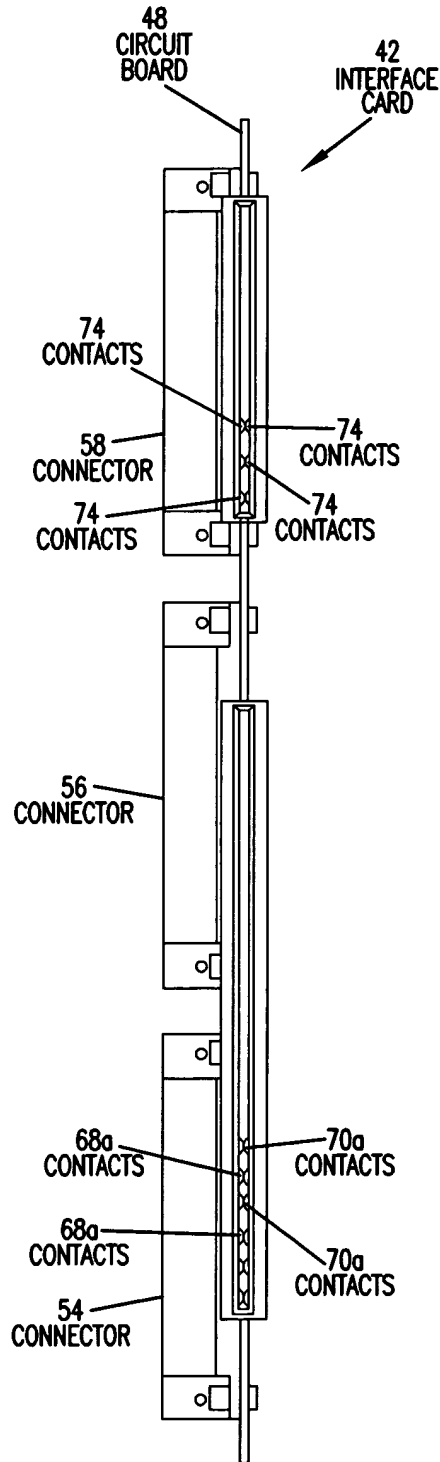
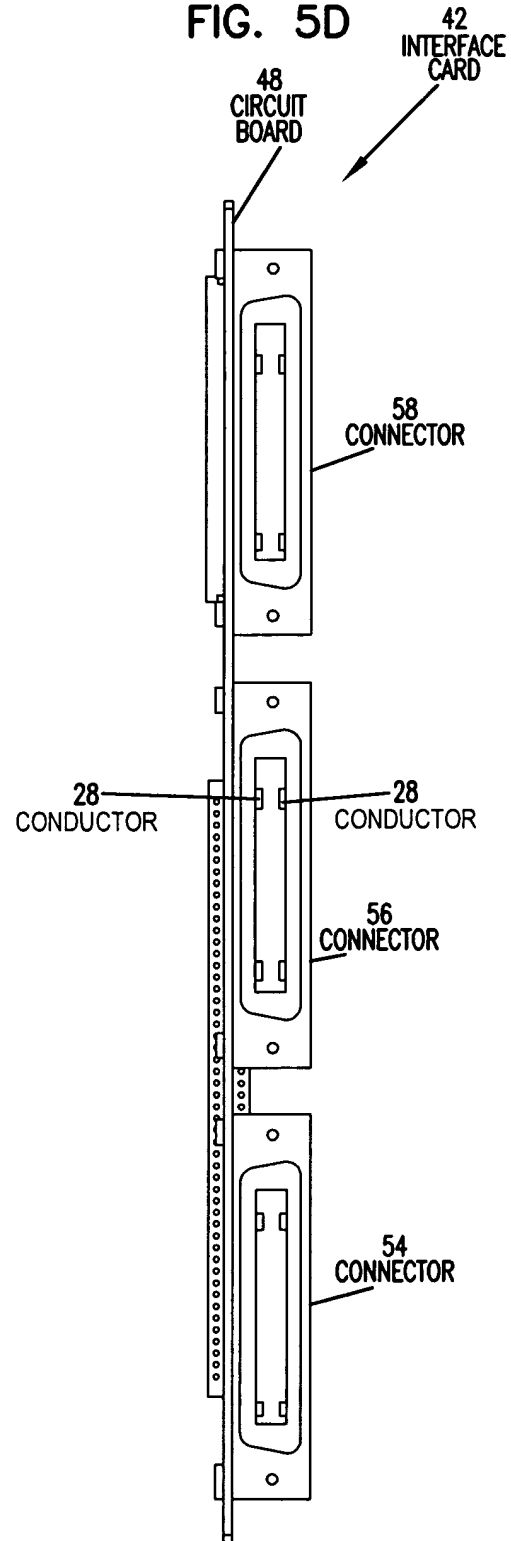
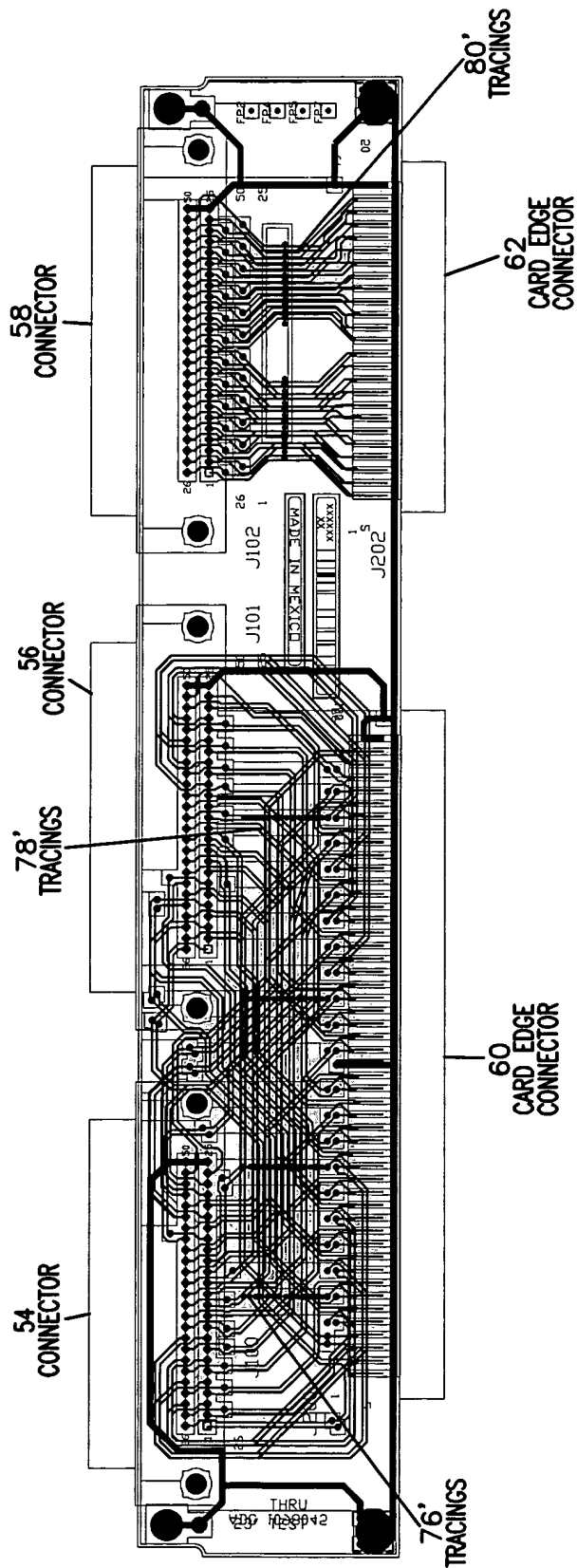


FIG. 5D



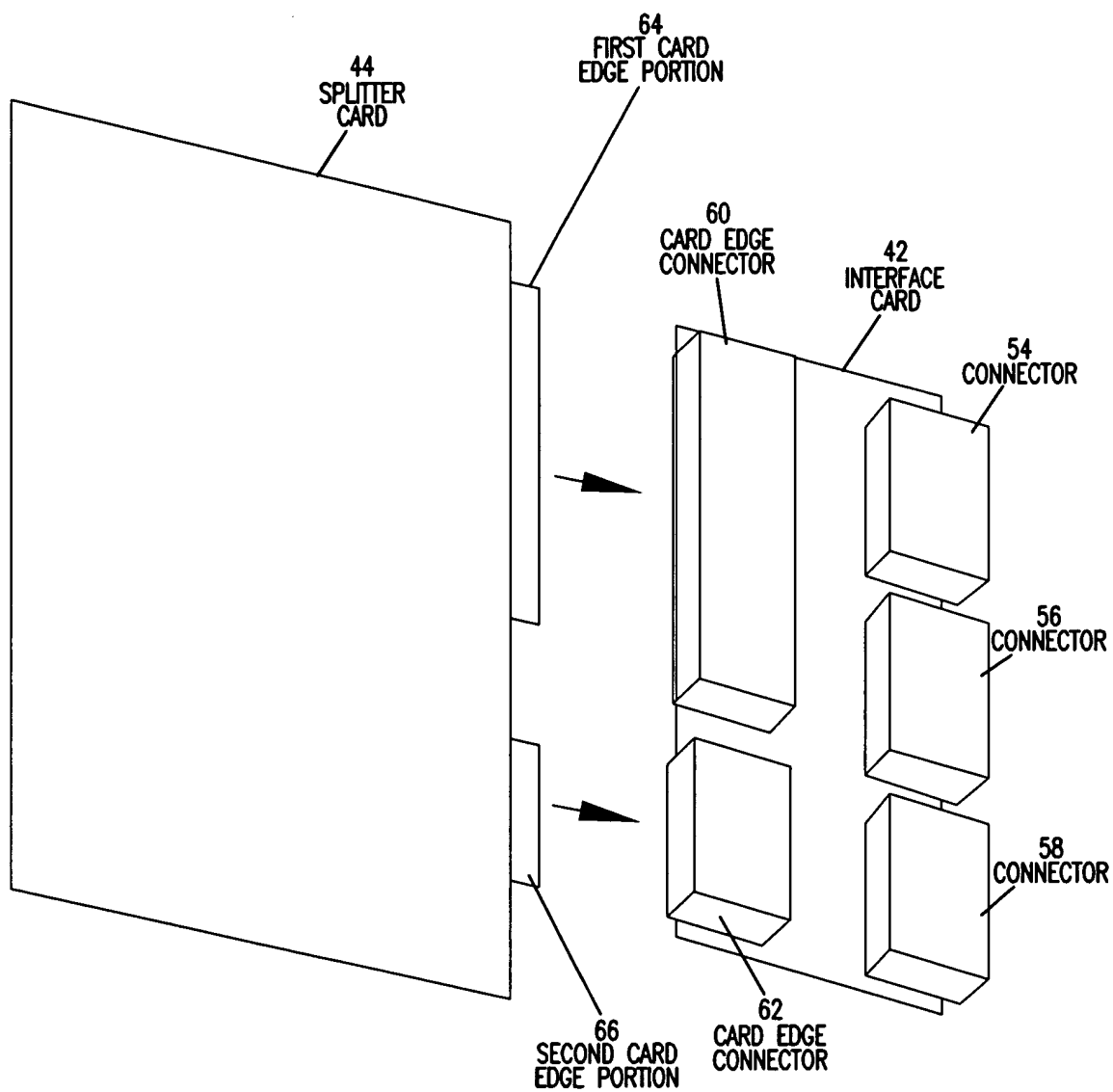
Legends
Added.

FIG. 5E

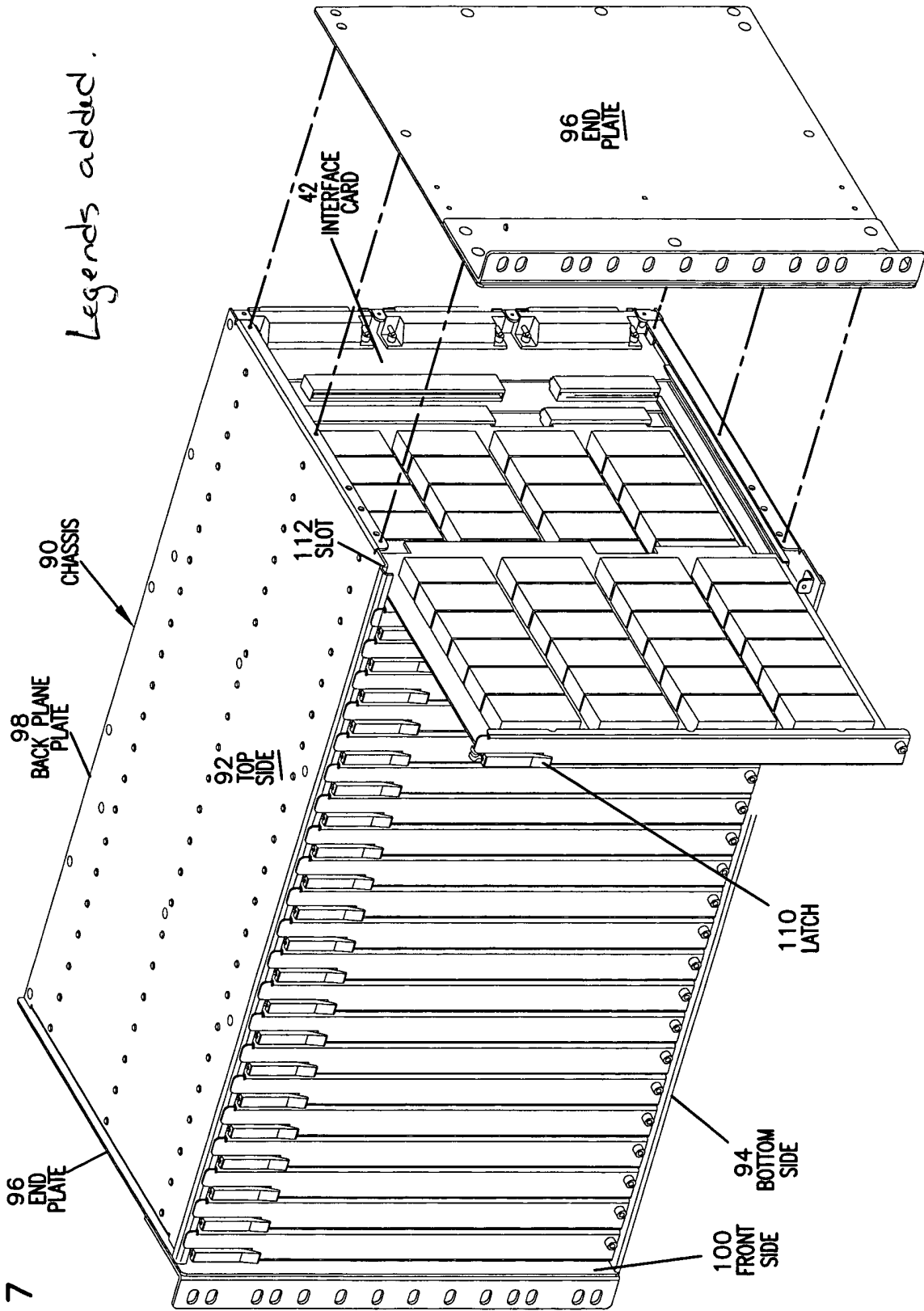


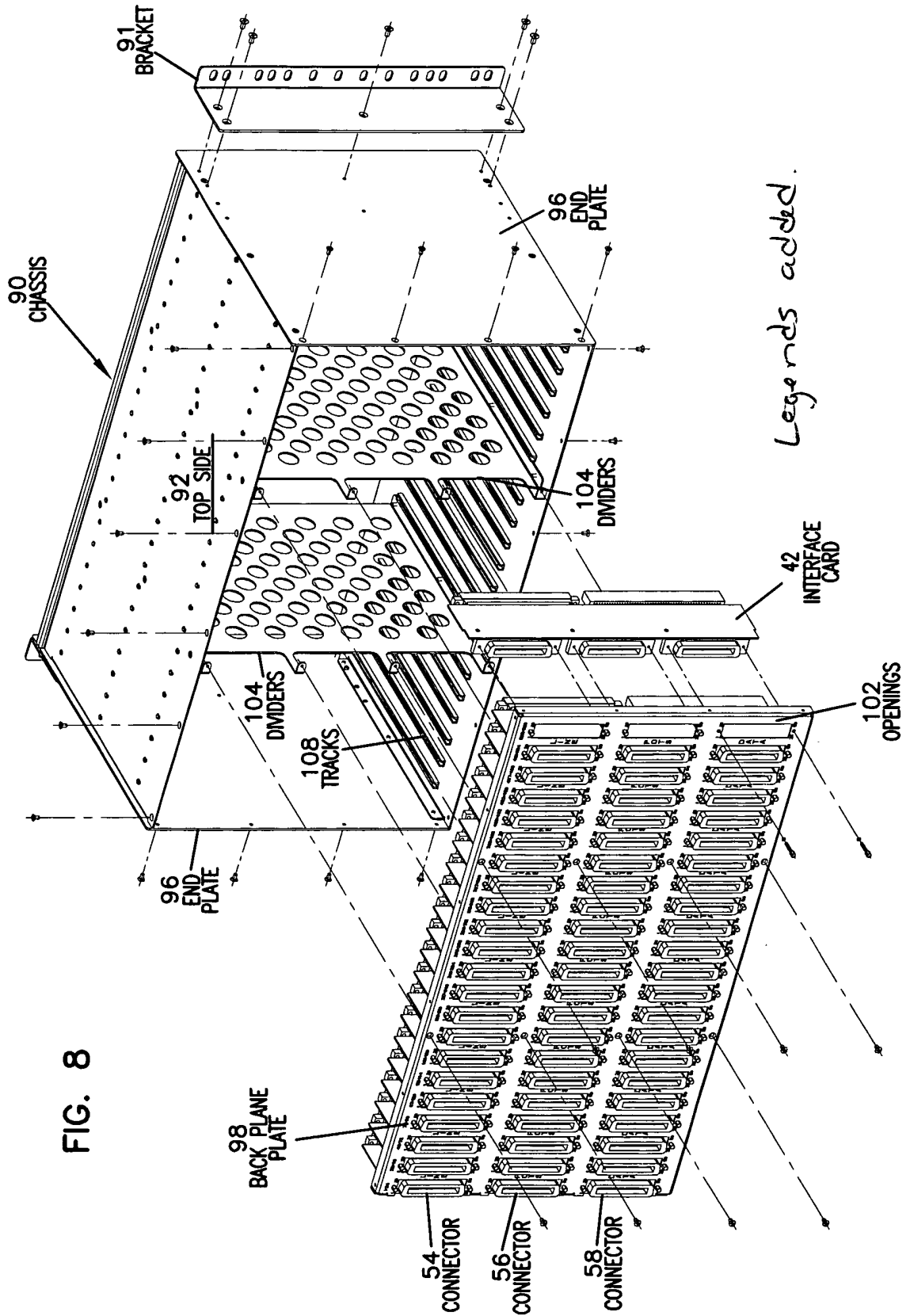
Legends added.

FIG. 6

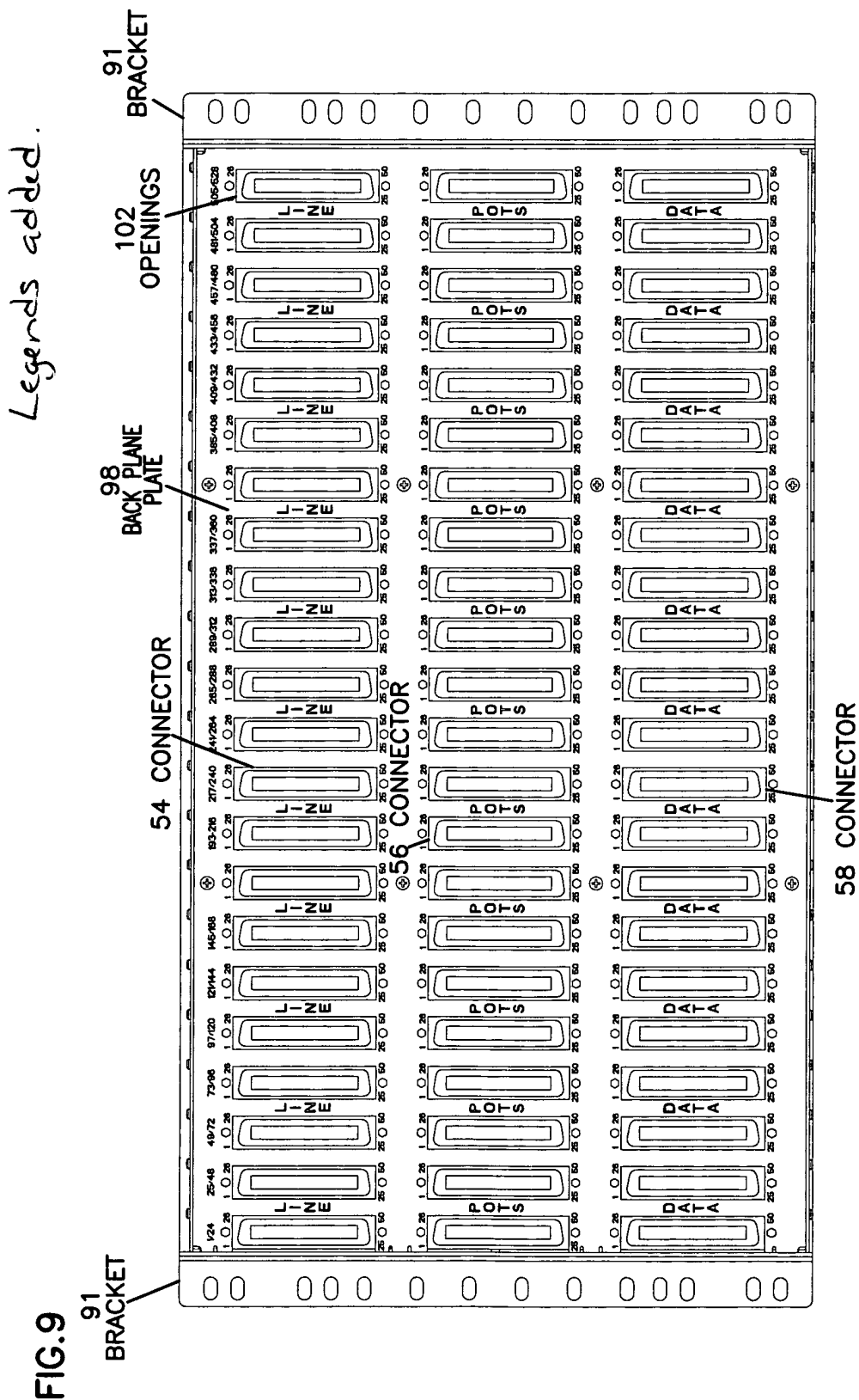


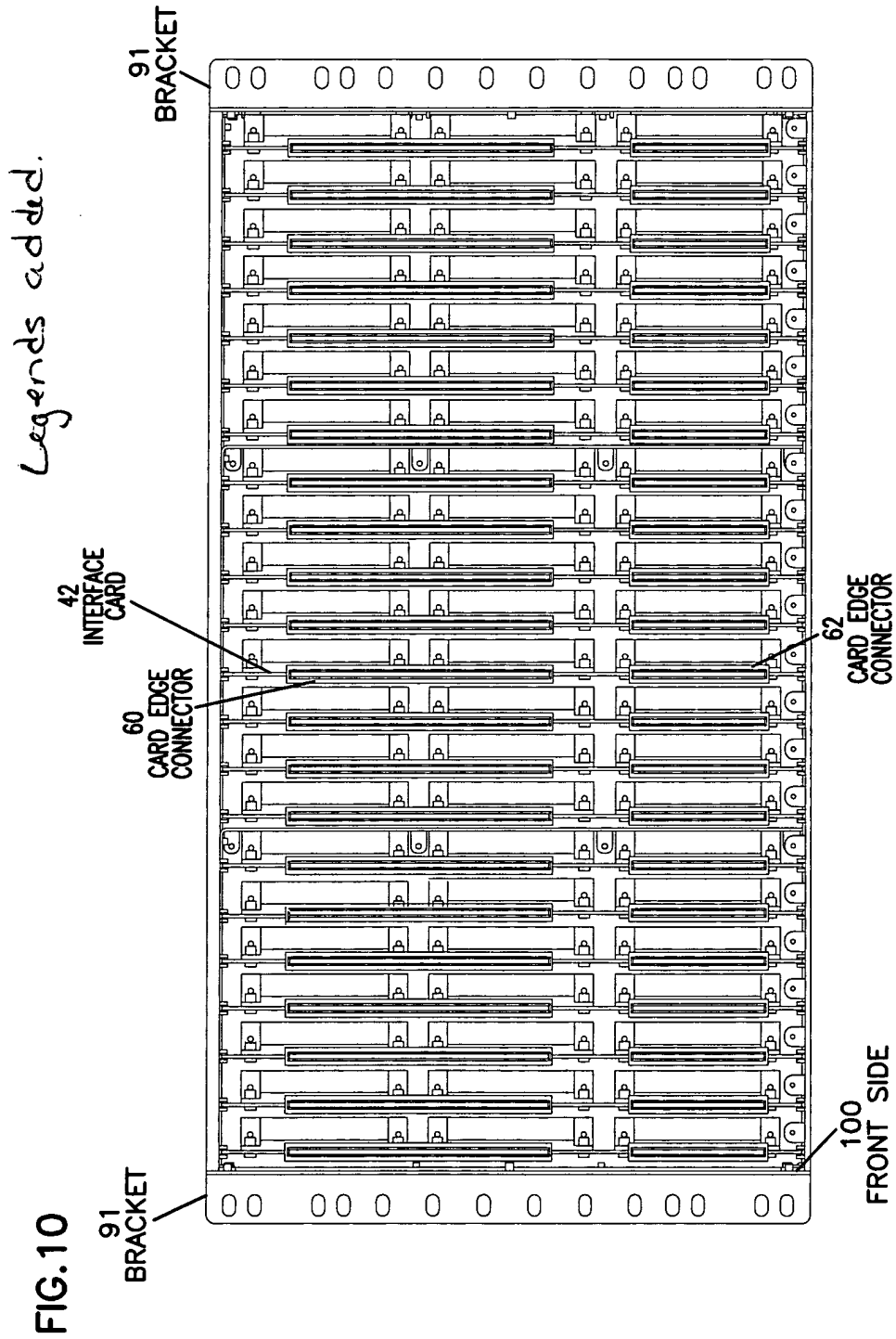
Legends added.





Legends added.





Legends added.

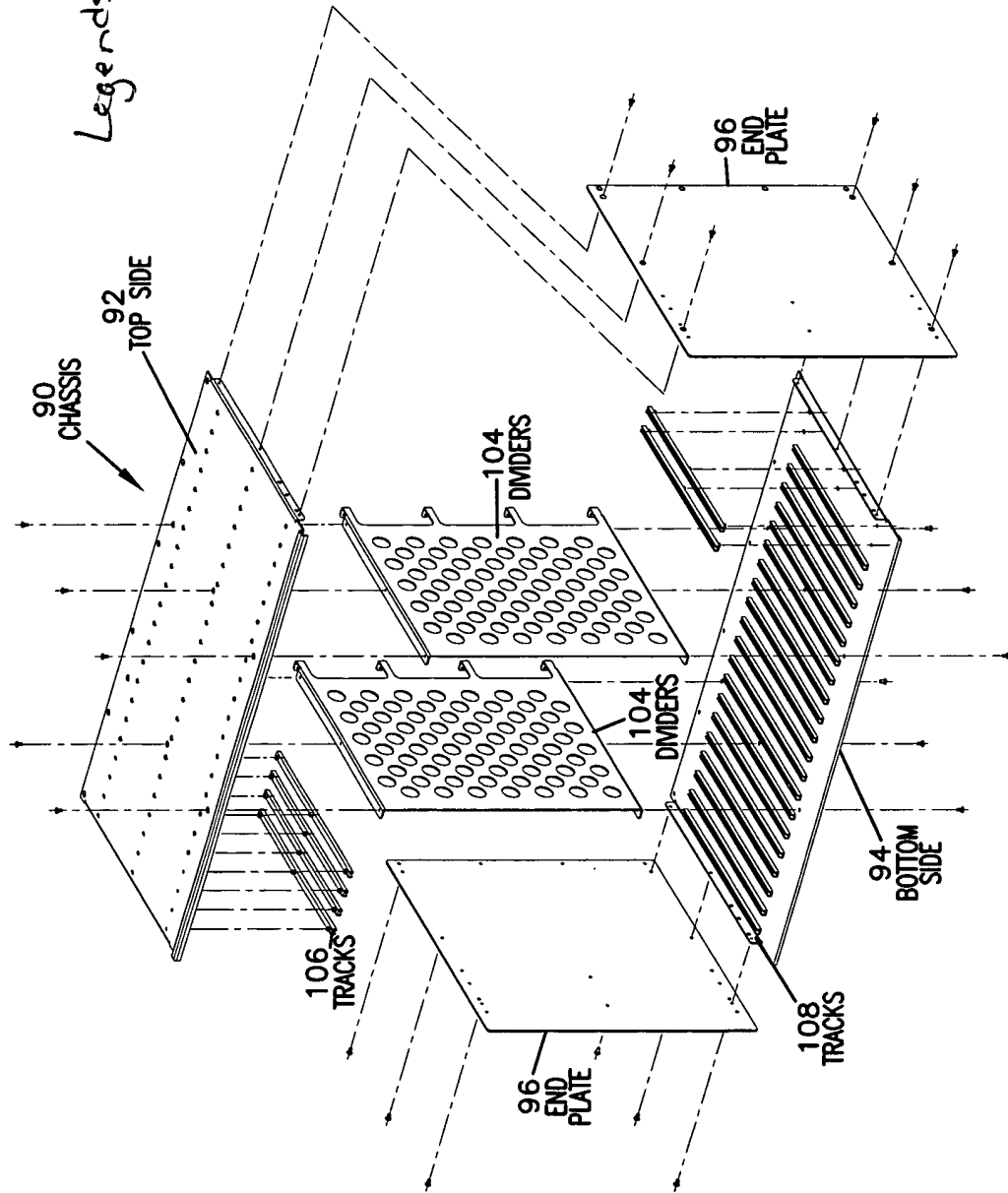


FIG. 11

